



# SERVICE PARTS LIST

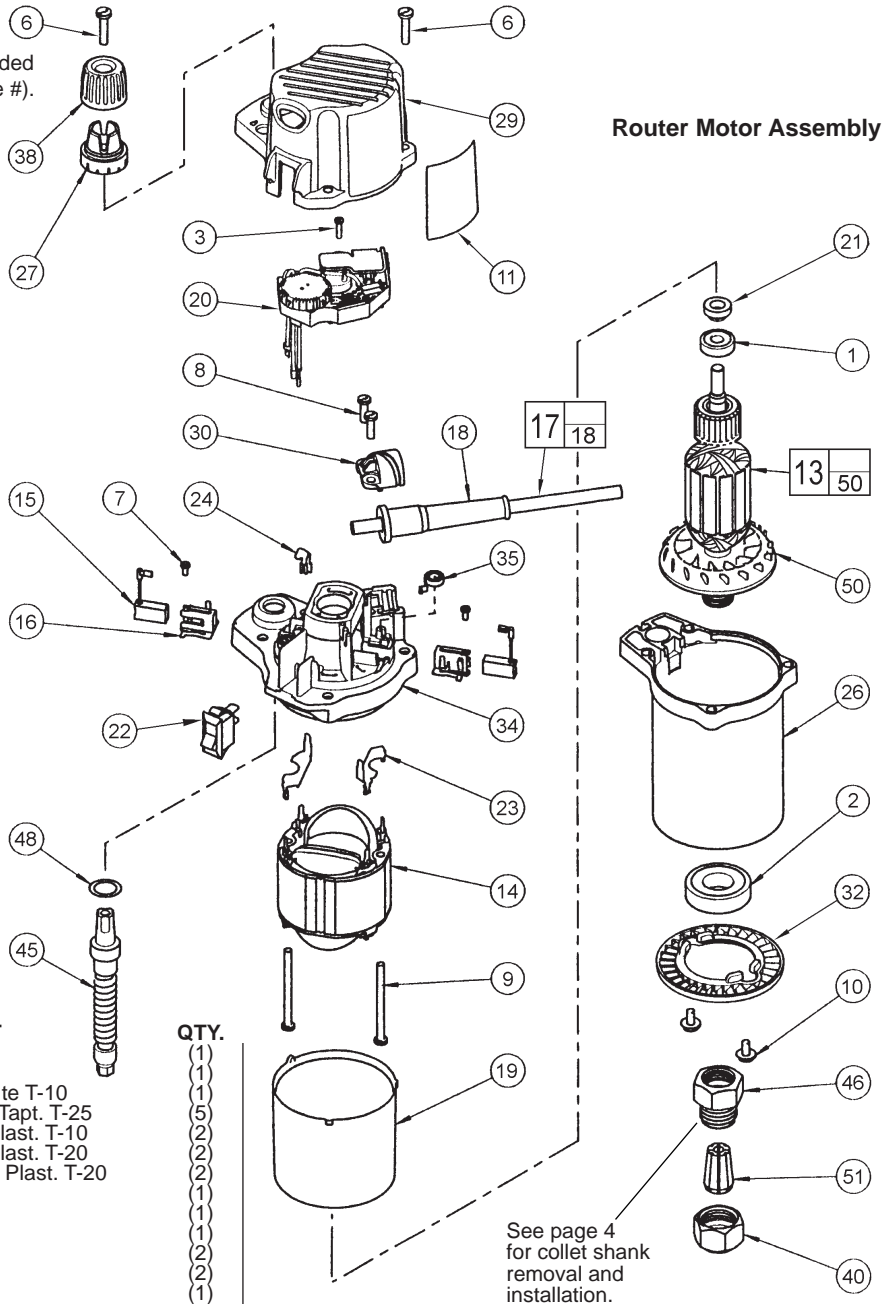
**BULLETIN NO.**  
**54-37-0225**

|  |                           |   |           |
|--|---------------------------|---|-----------|
| SPECIFY CATALOG NO. AND SERIAL NO. WHEN ORDERING PARTS |                           | REVISED BULLETIN                        | DATE      |
| <b>2.25 MAX. H.P. BODY GRIP ROUTER w/ ELECTRONICS</b>  |                           |   | Apr. 2013 |
| CATALOG NO. <b>5616-20/5616-29</b>                     | SERIAL NUMBER <b>A19A</b> | WIRING INSTRUCTION<br><b>58-01-0717</b> |           |

**EXAMPLE:**  

|    |   |
|----|---|
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|----|---|

 Component Parts (Small #) Are Included When Ordering The Assembly (Large #).



| FIG. | PART NO. | DESCRIPTION OF PART                                     | QTY. |
|------|----------|---|------|
|      | 1        | 02-04-0852 Ball Bearing                                 | (1)  |
|      | 2        | 02-04-2006 Ball Bearing                                 | (1)  |
|      | 3        | 06-82-7225 4-20 x 1/2" Pan Hd. Plastite T-10            | (5)  |
|      | 6        | 06-82-5574 10-24 x 7/8" Pan Hd. Slit. Tapt. T-25        | (2)  |
|      | 7        | 06-82-7212 4-20 x 1/4" Pan Hd. Slit. Plast. T-10        | (2)  |
|      | 8        | 06-82-7270 8-16 x 5/8" Pan Hd. Slit. Plast. T-20        | (2)  |
|      | 9        | 06-82-7455 8-16 x 2-3/8" Pan Hd. Slit. Plast. T-20      | (2)  |
|      | 11       | 12-20-0255 Service Nameplate Kit                        | (1)  |
|      | 13       | 16-30-0015 Armature                                     | (1)  |
|      | 14       | 18-30-1015 Field  | (1)  |
|      | 15       | 22-16-0410 Carbon Brush                                 | (2)  |
|      | 16       | 22-22-0165 Brush Tube                                   | (2)  |
|      | 17       | 22-64-0320 Cord Set Assembly                            | (1)  |
|      | 18       | 44-76-0210 Cord Protector                               | (1)  |
|      | 19       | 23-16-0405 Field Insulator                              | (1)  |
|      | 20       | 14-20-0055 Electronic Feedback Module                   | (1)  |
|      | 21       | 23-38-0200 Tachometer                                   | (1)  |
|      | 22       | 23-66-2280 Rocker Switch                                | (1)  |
|      | 23       | 23-74-0025 Field Terminal                               | (2)  |
|      | 24       | 23-74-0055 Connector Terminal                           | (1)  |
|      | 26       | 28-50-0105 Motor Housing                                | (1)  |
|      | 27       | 31-01-0025 Depth Scale                                  | (1)  |
|      | 29       | 31-15-0095 Motor Cover                                  | (1)  |
|      | 30       | 31-17-0070 Cord Clamp                                   | (1)  |
|      | 32       | 31-55-0025 Contamination Shield                         | (1)  |
|      | 34       | 31-50-0106 Motor Frame                                  | (1)  |
|      | 35       | 40-50-0190 Brush Spring                                 | (2)  |
|      | 38       | 43-98-0531 Depth Knob                                   | (1)  |
|      | 40       | 44-40-0095 Collet Nut (2 supplied with tool)            | (1)  |
|      | 45       | 45-08-0030 Depth Shaft Assembly                         | (1)  |
|      | 46       | 45-10-0081 Collet Shank (See reverse)                   | (1)  |
|      | 48       | 45-88-0045 Washer                                       | (1)  |
|      | 50       | 22-84-0380 Fan Assembly                                 | (1)  |
|      | 51       | 48-66-0985 1/4" Collet                                  | (1)  |
|      | 51       | 48-66-1010 1/2" Collet                                  | (1)  |
|      |          | 49-96-0365 1-1/8" Open End Wrench (Not Shown)           | (2)  |
|      |          | 49-96-0370 T-Handle Depth Adjustment Wrench (Not Shown) | (1)  |

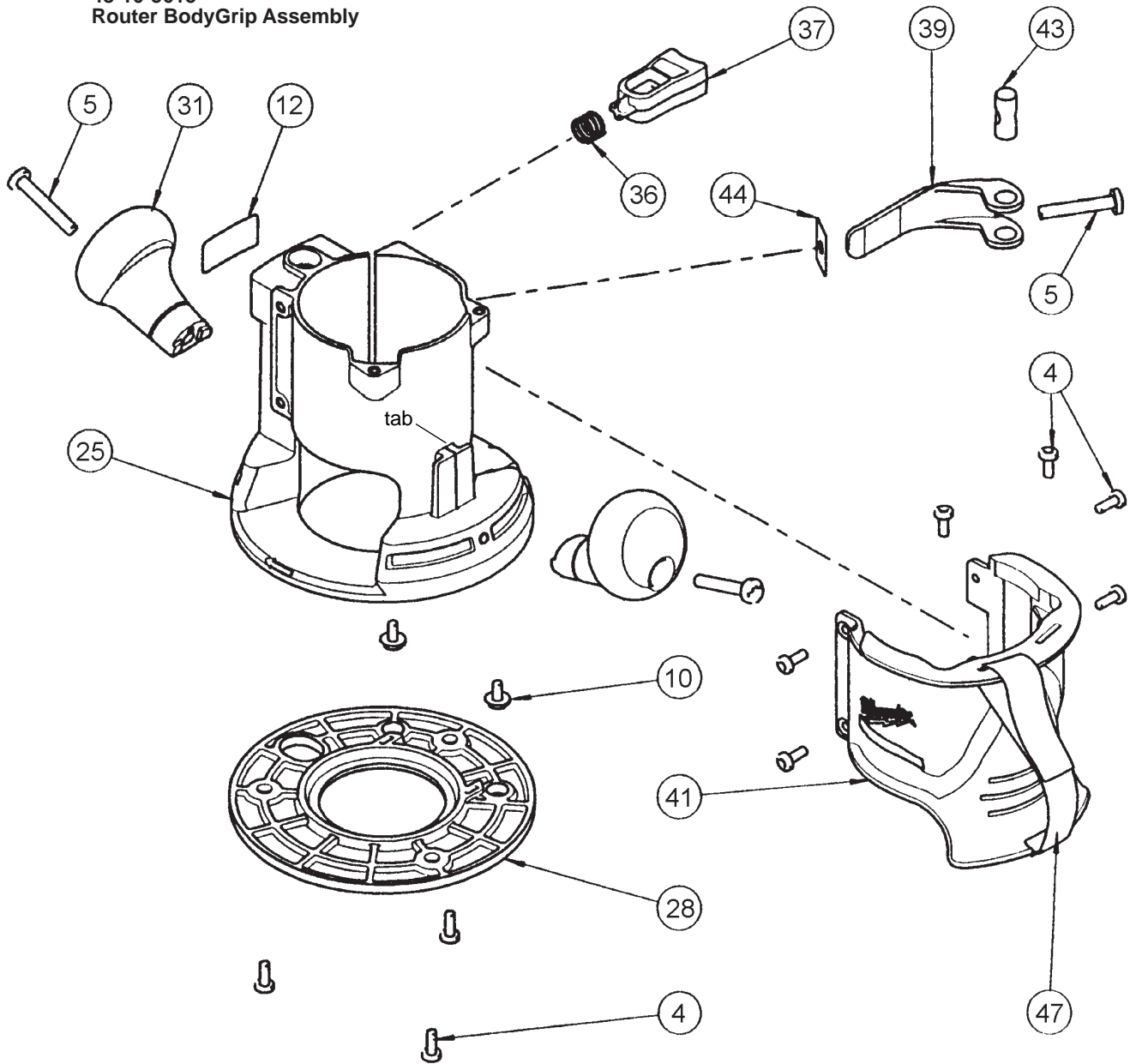
**FIG. 16,34,35 NOTES:**  
 When servicing the motor frame (34) and the brush tube (16) has to be removed, replace with a new brush tube. Note: Make sure that the brush spring (35) is positioned properly onto the new motor frame to insure proper brush tension to the commutator.

21 Press tachometer (21) flush ±.020 to the end of the armature shaft (13). Conical side to the bearing (1).

40,51 Collet must be snapped into the collet nut prior to assembly onto the collet shank.

**MILWAUKEE ELECTRIC TOOL CORPORATION**  
 13135 W. LISBON RD., BROOKFIELD, WI 53005

48-10-5615  
Router BodyGrip Assembly



| FIG. | PART NO.   | DESCRIPTION OF PART                      | QTY. |
|------|------------|--|------|
| 4    | 06-82-5314 | 10-24 x 1/2" Slit. Pan Hd. Tapt. T-25    | (9)  |
| 5    | 06-82-5514 | 1/4-20 x 1-1/2" Slit. Pan Hd. Tapt. T-30 | (3)  |
| 10   | 06-82-8865 | 10-32 x 7/16" Pan Hd. Tapt. Sems T-25    | (4)  |
| 12   | 12-25-0235 | Nameplate                                | (1)  |
| 25   | 26-06-0100 | Base                                     | (1)  |
| 28   | 49-54-1045 | Sub Base                                 | (1)  |
| 31   | 31-44-0130 | Knob Handle                              | (2)  |
| 36   | 40-50-4005 | Compression Spring                       | (1)  |
| 37   | 42-42-0126 | Release Button                           | (1)  |
| 39   | 44-10-0435 | Base Clamp Lever                         | (1)  |
| 41   | 44-52-0020 | Body Grip                                | (1)  |
| 43   | 44-60-0095 | Thru Pin                                 | (1)  |
| 44   | 44-66-0035 | Wear Plate                               | (1)  |
| 47   | 45-56-0225 | Handle Strap Assembly                    | (1)  |

**FIG. NOTES:**

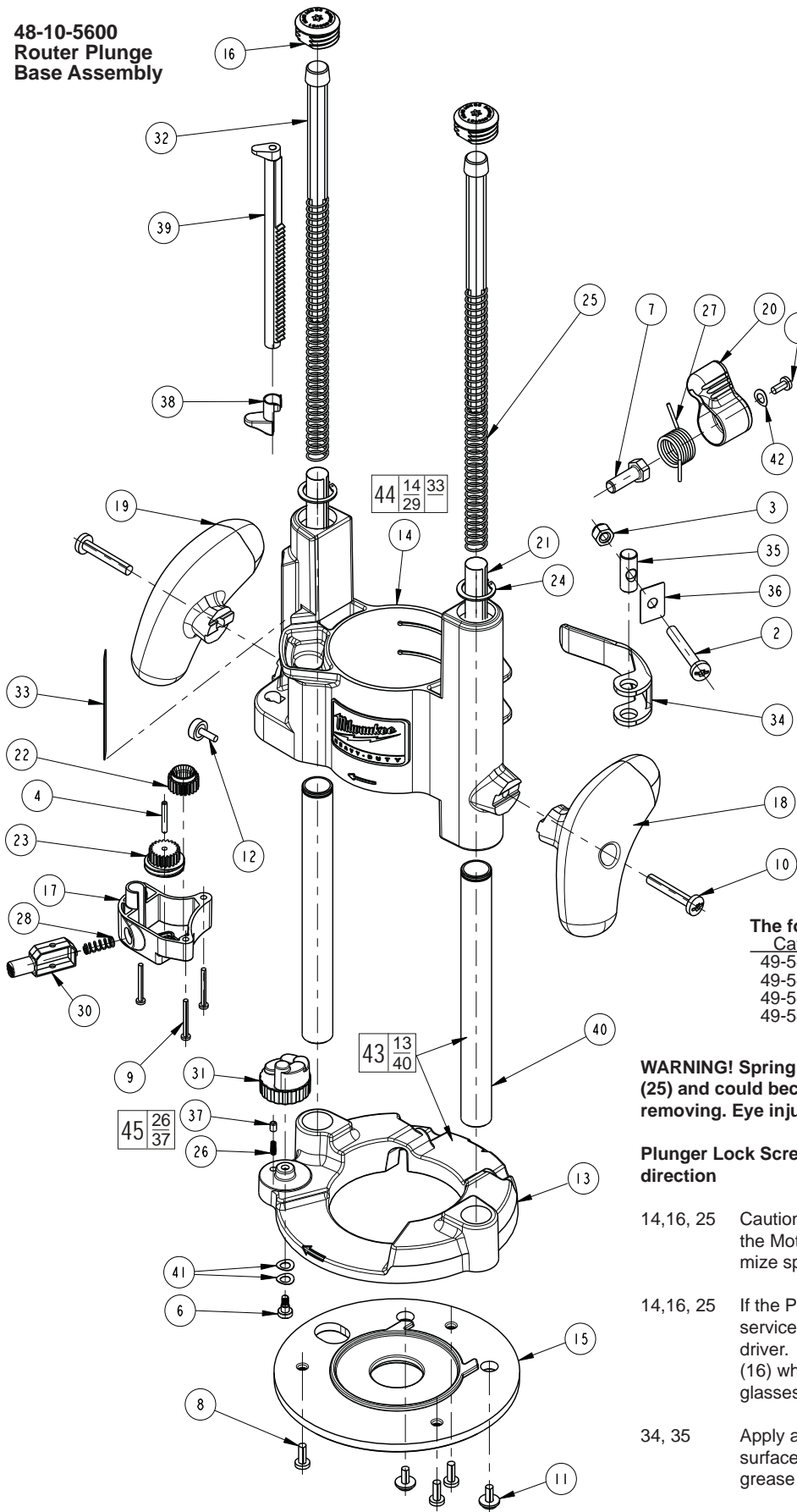
5,39 Clamping force for the base clamp lever (39) is adjusted with base clamp screw (5). Tighten the screw using 10-20 lbs. force to close the lever to the locked position. Motor unit must be in base when checking force.

25,36,37 To service the release button (37) and the compression spring (36) a long, thin tool like a flat blade screwdriver must be used. From the bottom of the base (25), insert the screwdriver into the cavity located under the release button. Press on the button detent to release.

25,41,47 The metal clip from the handle strap (47) is to be placed around the tab on the base (25). The body grip (41) is to be placed onto the base from the top so that the cavity on the inside of the body grip slips over the tab on the base, securing the handle strap.

39,43 Apply a thin coat of "L" grease, No. 49-08-4170, to the pivot surface areas of the base clamp lever (39). Apply a thin coat of grease to the surface of the thru pin (43).

**48-10-5600  
Router Plunge  
Base Assembly**



| FIG. | PART NO.   | DESCRIPTION OF PART          | QTY. |
|------|------------|------------------------------|------|
| 1    | 05-81-1005 | Screw 8-32 x .394 T20        | (1)  |
| 2    | 06-14-0080 | Bolt 1/4-20 x 1.75 T30       | (1)  |
| 3    | 06-57-6075 | Lock Nut                     | (1)  |
| 4    | 06-65-0700 | Gear Pin                     | (1)  |
| 6    | 06-75-0410 | Shoulder Bolt M4 T25         | (1)  |
| 7    | 06-81-1980 | Plunge Lock Screw            | (1)  |
| 8    | 06-82-5314 | 10-24 x .5 Pan Tap Torx      | (3)  |
| 9    | 06-82-5315 | Screw ST M3 x 26.5 mm T10    | (3)  |
| 10   | 06-82-5514 | T30, 1/4 - 20 x 1.50 Taptite | (2)  |
| 11   | 06-82-8865 | Slotted Torx Taptite Screw   | (2)  |
| 12   | 06-87-0100 | Depth Rod Locking Screw      | (1)  |
| 13   | -----      | Base                         | (1)  |
| 14   | -----      | Motor Carriage               | (1)  |
| 15   | -----      | Subbase (See Chart)          | (1)  |
| 16   | 31-12-0380 | Spring Cap                   | (2)  |
| 17   | 31-40-0190 | Gear Housing                 | (1)  |
| 18   | 31-44-2530 | Right Handle                 | (1)  |
| 19   | 31-44-2535 | Left Handle                  | (1)  |
| 20   | 31-52-0120 | Plunge Lock Lever            | (1)  |
| 21   | 31-55-0500 | Spring Shield Tube           | (2)  |
| 22   | 32-40-2380 | Gear with Hex                | (1)  |
| 23   | 32-40-2385 | Gear with Screw              | (1)  |
| 24   | 34-60-3705 | Retaining Ring               | (2)  |
| 25   | 40-50-1395 | Plunge Spring                | (2)  |
| 26   | -----      | Spring                       | (1)  |
| 27   | 40-50-1410 | Torsion Spring               | (1)  |
| 28   | 40-50-1415 | Spring                       | (1)  |
| 29   | -----      | Bushing (not shown)          | (4)  |
| 30   | 42-42-1050 | Gear Release Button          | (1)  |
| 31   | 42-46-0250 | Turret                       | (1)  |
| 32   | 43-56-0915 | Spring Guide                 | (2)  |
| 33   | 43-82-0175 | Scale                        | (1)  |
| 34   | 44-10-0435 | Base Clamp Lever             | (1)  |
| 35   | 44-60-0095 | Pin, Thru                    | (1)  |
| 36   | 44-66-0035 | Wear Plate                   | (1)  |
| 37   | -----      | Detent Pin                   | (1)  |
| 38   | 44-72-0100 | Depth Rod Pointer            | (1)  |
| 39   | 44-94-0460 | Depth Stop Rod               | (1)  |
| 40   | -----      | Plunge Rod                   | (2)  |
| 41   | 45-88-0995 | Spring Washer                | (2)  |
| 42   | 05-90-0225 | M4 Spring Washer             | (1)  |
| 43   | 14-46-5600 | Base and Plunge Rod Kit      | (1)  |
| 44   | 14-46-5605 | Motor Carriage Kit           | (1)  |
| 45   | 14-46-5610 | Spring Assembly              | (1)  |

The following sub-bases (15) are compatible with this base:

| Cat. No.   | Outside dia. | Center hole dia. | Color |
|------------|--------------|------------------|-------|
| 49-54-1027 | 6"           | 1-3/16"          | Clear |
| 49-54-1028 | 6"           | 2-1/2"           | Clear |
| 49-54-1040 | 6"           | 1-3/16"          | Black |
| 49-54-1045 | 6"           | 2-1/2"           | Black |

**WARNING! Spring Caps (16) are under pressure from Plunge Springs (25) and could become projectiles when loosened. Use caution when removing. Eye injury could occur. Always wear safety glasses.**

**Plunger Lock Screw (7) is LH Thread – tightens in counter-clockwise direction**

14, 16, 25 Caution! Before removing Spring Caps (16) always release/bring the Motor Carriage (14) to the upward most height setting to minimize spring (25) tension.

14, 16, 25 If the Plunge Springs (25) or Motor Carriage (14) need to be serviced, remove Spring Caps (16) with a T-40 Tamper Proof style driver. Note: Always cover / hold your hand over the spring caps (16) when removing or installing springs (25). Always wear safety glasses.

34, 35 Apply a thin coat of "L" grease, No. 49-08-4170, to the pivot surface areas of the base clamp lever (34). Apply a thin coat of grease to the surface of the thru pin (35).

14, 20, 24, 40 To aid in the removal of Retaining Rings (24) from the Plunger Rods (40). (springs (25) and plunger caps (16) removed previously) Push Plunge Lock Lever (20) down and Lower Motor Carriage (14) down until Retaining Rings (24) are just below the internal Spring Cap threads inside the Motor Carriage.

# Repair Instructions for the 5616-20,-29 2-1/4 H.P. Body Grip Router

## 45-10-0081 Collet Shank – removal / installation

### Removal of the Collet Shank from the Armature shaft...

**Note:** The Armature shaft has a 3/8" internal hex; The Collet Shank threads onto the Armature shaft.

**Step 1** applied at the time of assembly, mild heat to the Collet Shank will soften Loctite® Threadlocker and will aide in the disassembly. Care should be taken with a heat gun, not to damage the seal of the Ball Bearing or Contamination Shield.

**Step 2** to hold the Armature **securely from turning**, pass a 3/8" t-handle Hex Key through the Collet Shank and into the Armature's 3/8" internal hex.



3/8" t-handle Hex Key

**Step 3** using the Router's standard equipment Forged 1-1/8" Open End Wrench on the external hex of the Collet Shank, turn the Collet Shank counter-clockwise ⤵ to remove.

### Installation of the Collet Shank to the Armature shaft...

torque specification of the Collet shank to the Armature shaft is **16.5 ft-lbs** [*vigorously hand-tight*]...

Installation of the Collet Shank [45-10-0081] for a 5616-20,-29 Body Grip Router can best be accomplished by using a 3/8" t-handle Hex Key, a 1-1/8" Crowfoot Wrench and a Torque Wrench.

**Step 1** apply two drops of Loctite® 'Blue' 242® or 243 Oil Tolerant, Threadlocker or equivalent, 180° apart, to threads of the Armature shaft before threading the Collect Shank onto the Armature... care should be taken not to get thread locking sealant on the ball bearing journal of the Armature shaft.

**Step 2** pass a 3/8" t-handle Hex Key through the Collect Shank and into the Armature's 3/8" internal hex to hold the Armature securely from turning.

**Step 3** using a 1-1/8" Crowfoot Wrench and a Torque Wrench combination turn the 1-1/8" hex of the Collet Shank in a clockwise ⤵ direction until tight and the specified minimum of **16.5 ft-lbs** of torque is reached.



1-1/8"  
Crowfoot Wrench

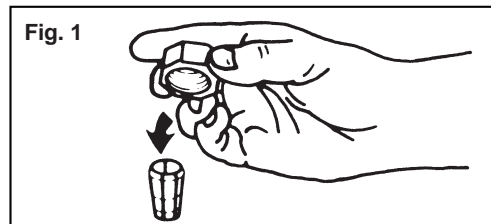


ft/lb Torque Wrench

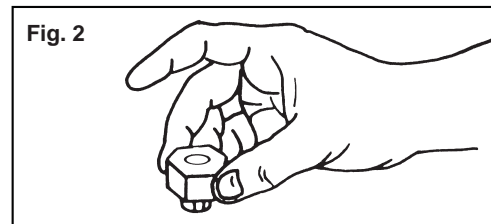
### Collets

The collet must be attached to the collet nut before it is put into the collet shaft. Be sure that the size of the collet matches the size of the bit shank being used. If the wrong size bit shank is used, the collet may break. For attaching or detaching the collet nut to the collet, follow the illustrated instructions.

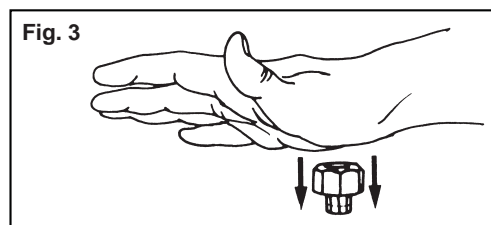
#### Attaching Collet to Collet Nut



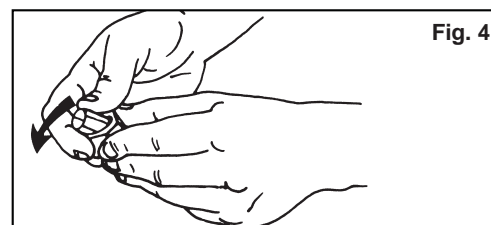
To assemble, place the narrow end of the collet on an even surface. Take the nut and place it over the collet (Fig. 1).



Position nut squarely over collet with the smaller opening of the nut facing up (Fig. 2).



Snap nut and collet together by firmly applying downward pressure into assembly with palm of hand (Fig. 3).



To remove collet from nut, hold nut firmly with one hand and press the collet to one side with the other hand (Fig. 4).